

MEMORANDUM

SUBJECT: Request for a Time Critical Removal Action at the Gulfco Marine Maintenance Site, Brazoria County, Texas

FROM: Rita Engblom, Federal On-Scene Coordinator
Superfund Removal Team (6SF-PR)

TO: Samuel Coleman, P.E., Director
Superfund Division (6SF)

THRU: Mark Hansen, Acting Associate Director
Prevention and Response Branch (6SF-P)

I. PURPOSE

This Memorandum requests approval of a Time Critical removal action in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9604, at the Gulfco Marine Maintenance site (the "Site") located approximately three miles northeast of Freeport, in Brazoria County, Texas. The site consists of approximately 40 acres along the north bank of the Intracoastal Waterway. The time critical removal action is to address source material in deteriorating above ground storage tanks.

This action meets the criteria for initiating a removal action under Section 300.415 of the National Contingency Plan (NCP), 40 CFR § 300.415. This action is expected to require less than twelve months and \$2 million to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID#: TXD055144539
Category of Removal: Time-Critical
Site ID#: 06JZ
Latitude: 28.96684
Longitude: -95.28965

Engblom	Webster	Petersen/Hansen	Miller	Shade	Johnson	Nann	Peycke
6SF-P	6SF-PR	6SF-P	6SF-RA	6SF-TE	6SF-TE	6SF-RC	6SF-RC

A. Site Description

1. Removal Site Evaluation

The Gulfco Marine Maintenance facility operated as a barge cleaning and waste disposal facility from 1971 through 1979. Operations at the facility involved the cleaning, servicing and repair of various types of barges. Chemicals were drained and pumped from barges into Aboveground Storage Tanks (ASTs). Barges were then washed with water and/or a detergent solution. Generated wash waters were disposed of in barges and/or ASTs onsite.

Previous investigations at the Site have included:

- Phase I and II Investigations (1998 - 1999) – Phase I and II investigations conducted by the Potentially Responsible Parties (PRPs).
- LTE Site Characterization (1999) – In March 1999, the PRPs conducted an investigation of the Site, including the sampling of ASTs and drum contents, accumulated water within the former AST tank farm containment area, soils, residual sandblasting material, sediment from the fresh water pond, and groundwater.
- Screening Site Inspection (2000) – In cooperation with the Environmental Protection Agency (EPA), the Texas Commission on Environmental Quality (TCEQ), formerly the Texas Natural Resources and Conservation Commission (TNRCC) performed a Screening Site Inspection (SSI). The SSI included collection of onsite and offsite soil samples, Intracoastal Waterway sediment samples (adjacent to and distant from the Site), pond sediment samples and groundwater samples from existing monitoring wells.
- Expanded Site Inspection 2001 – In cooperation with EPA, TCEQ performed an Expanded Site Inspection (ESI) in January 2001. The ESI included collection of groundwater samples from temporary onsite and offsite monitoring wells.

Thirteen Potential Source Areas (PSAs) have been identified at the Site based on the history of the Site and previous investigations. Chemicals of Concern (COCs) include metals, Volatile organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs).

Time critical sources identified by EPA include deteriorating ASTs and an eroding surface impoundment. Analytical results from AST liquids indicate the presence of the following COCs: chloroform, 1,1-dichloroethane, 1,2-dichloroethane, methylene chloride, tetrachloroethylene (PCE), 1,1,1-trichloroethane, 1,2,4-trimethylbenzene and trichloroethylene (TCE). One AST contains approximately 2,300 gallons of chloroform. Samples failed Total Characteristic Leaching Procedure (TCLP) for chloroform, carbon tetrachloride, benzene, 1,2-dichloroethane, PCE, TCE, and vinyl chloride. The ASTs are contained within two bermed areas. Berms contain approximately 126,650 gallons of liquid waste.

Three onsite surface impoundments, generated by the PRP from earthen pits with natural clay liners, were reportedly used for storage of waste oils, caustics, various organic chemicals, and waste wash waters generated during barge cleaning activities. The impoundments were interconnected with overflow pipes and combined, cover an area approximately 300 feet long by 297 feet wide. In 1982, the PRP reportedly removed liquid and some sludges from the impoundments and solidified the remaining sludges before capping the impoundments. However, there is no documentation that wastes from the impoundments were excavated and properly shipped offsite for disposal. Additionally, areas of the cap have recently begun eroding, leaving ruts and inconsistent cover.

2. Physical Location

The facility is located at 906 Marlin Avenue (also referred to as County Road 756) approximately three miles northeast of the city of Freeport, in Brazoria County, Texas (*See* Attachment 1). The geographic coordinates are latitude 28° 58' 00.65" north and longitude 95° 17' 22.76" west. The Site is within the 100-year coastal flood plain along the north bank of the Intercoastal Waterway between Oyster Creek to the east and the Old Brazos River Channel and the Dow Barge Canal to the west. Surface water generally flows eastward into Drum Bay, Christmas Bay, Bastrop Bay, and Galveston Bay. However, the southern part of the Site drains to the south and enters the Intercoastal Waterway.

Approximately 78 people live within the one square mile area surrounding the Site. Approximately 3,392 people live within 50 square miles of the Site. The surrounding area is primarily industrial and commercial. A residential area is located approximately 300 feet west of the Site.

3. Site Characteristics

The Site is approximately 40 acres in size. The Gulfco Marine Maintenance, Inc. facility operated as a barge cleaning and waste disposal facility from 1971 to 1979. PSAs identified by the TCEQ and EPA include three buried/backfilled surface impoundments, contaminated soil, ground water contamination, and a tank farm.

Marlin Avenue divides the Site into two primary areas (*See* Attachment 2). The property to the north of Marlin Avenue (the North Area) includes the closed surface impoundments. An Aboveground Storage Tank (AST) farm is located at the Site south of Marlin Avenue. It consists of fourteen tanks of various sizes located within a concrete bermed area. The tanks contain water, various organic phases, oily sludges, and sand, rust solids, and debris. Sampling of AST contents has indentified various hazardous substances including benzene, 1,2-dichloroethane, chloroform, heptachlor, tetrachloroethene, trichloroethene, and vinyl chloride.

A Site visit in on March 9, 2010 identified that corrosion of the tanks had resulted in complete penetration of the metal in some cases. The containment areas were approximately one-half full with water.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Tanks contain hazardous substances including: benzene; chloroform; 1,2dichloroethane; trichloroethylene; tetrachloroethylene; and vinyl chloride in various concentrations. These are listed as hazardous substances pursuant to 40 CFR § 302.4. As such, they are hazardous substances as defined in Section 101(14) of the CERCLA, 42 U.S.C. § 9601(14).

5. NPL Status

The Gulfco Marine site was proposed for placement on the National Priorities List (NPL) on September 5, 2002 and subsequently placed on the NPL on April 30, 2003.

6. Maps, pictures and other graphic representations

Attachment 1 Site Location Map

Attachment 2 Site Sketch

Attachment 3 ATSDR Fact Sheets

Attachment 4 Drainage Pathway

Attachment 5 Enforcement Addendum (Confidential EPA file)

B. Other Actions to Date

1. Previous Actions

The TCEQ in cooperation with the EPA conducted a Screening Site Inspection (2000) and an Expanded Site Inspection 2001. A Hazard Ranking Score (HRS) Documentation Record was prepared in 2002 for NPL listing of the site.

2. Current Actions

A PRP is performing a Remedial Investigation/Feasibility Study (RI/FS) required by the Unilateral Administrative Order issued by the EPA. Once complete, the EPA will propose a final remedy to be published in a Record of Decision to address remaining PSAs at the Site.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

Pursuant to a Cooperative Agreement with EPA, the TCEQ has been the lead agency for

remedial investigations and reports.

2. Potential for State/local Response

The TCEQ will provide assistance in oversight of this removal action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a removal action. Paragraphs (b)(2)(i), (ii), (iii), and (iv) directly apply to the conditions at the Site. Any one of these factors may be sufficient to justify a removal action.

1. Exposure to Human Populations, Animals or the Food Chain, NCP Section 300.415.(b)(2)(i)

A number of CERCLA hazardous substances have been document at the Site, at levels which fail TCLP, including benzene, chloroform and chlorinated hydrocarbons.

The predominant threat to human populations was the potential for exposure by direct contact with hazardous waste at the Site, including but not limited to benzene; chloroform; 1,2dichloroethane; trichloroethylene; tetrachloroethylene; and vinyl chloride.

Potentially, a wide array of adverse human health effects could occur through the inhalation, ingestion, or dermal contact with chemicals onsite. Effects include minor to severe irritation of skin, mucous membrane, lung, and gastrointestinal tract; neurological effects; death from systemic effects and asphyxiation; blood effects; and cancer. Potential effects of some of the more toxic chemicals which are hazardous substances as defined at Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and further defined at 40 CFR § 302.4, are summarized below:

- a. Benzene – Benzene is a carcinogen. Systemic effects from exposure include irritation to mucous membranes, restlessness, convulsions, and depression.
- b. Chloroform – Chloroform can cause dizziness, fatigue, and headache. Inhalation or ingestion of high levels of chloroform over time may damage liver and kidneys.
- c. Trichloroethylene (TCE) - Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage.
- d. Tetrachloroethylene (perchloroethylene) – PCE may be a carcinogen. High concentrations can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.
- e. Vinyl chloride – Vinyl chloride is a carcinogen. Breathing high levels of vinyl

chloride can cause you to feel dizzy or sleepy. Breathing very high levels can cause you to pass out, and breathing extremely high levels can cause death.

2. Contamination of Drinking Water Supplies or Sensitive Ecosystems, NCP Section 300.415(b)(2)(ii)

The majority of the land surface slopes to the east with surface water draining to Drum Bay, Christmas Bay, Bastrop Bay, and Galveston Bay. The southern part of the Site drains to the south and enters the Intercoastal Waterway. The Site is within the 100-year coastal flood plain along the north bank of the Intercoastal Waterway between Oyster Creek to the east and the Old Brazos River Channel and the Dow Barge Canal to the west. Sensitive ecosystems, including wetlands receiving drainage from the site could be impacted by the toxic contaminants identified onsite.

3. Hazardous Substances or Pollutants or Contaminants in Drums, Barrels, Tanks, or Other Bulk Storage Containers, That May Pose a Threat of Release, Section 300.415 (b) (2) (iii)

An aboveground Storage tank farm located in the Southern portion of the Site contains 14 tanks holding over 130,000 gallons of liquid and 100 cubic yards of sludge/sediment waste. The tanks contain water, various organic phases, oily sludges, and sand, rust solids, and debris. Lab analysis of the tanks documented: benzene; chloroform; 1,2dichloroethane; trichloroethylene; tetrachloroethylene; vinyl chloride; and petroleum hydrocarbons in various concentrations.

4. Weather Conditions That May Cause the Release or Migration of Hazardous Substances, NCP Section 300.415(b)(2)(v)

The area receives an average of 51 inches of rain annually. The contaminants are subject to migration by entrainment, windblown deposition and surface runoff. Located on the coast of Texas, the Site is subject to tropical depressions and hurricanes. In 2008, the Site received heavy rain and winds from Hurricane Ike.

B. Threats to the Environment

Areas of the site north of Marlin Avenue drain to the northeast into emergent, estuarine, persistent, irregularly flooded wetlands. These wetlands are directly adjacent to the upland area of the surface impoundments on the north, east, and west. The overland segment distance from the surface impoundment to wetlands contiguous to Oyster Creek is less than 10 feet. These wetlands extend approximately 0.48 miles to Oyster Creek (See Attachment 4).

According to the USFWS, Threatened and Endangered Species for Brazoria County include: bald eagle, brown pelican, green sea turtle, hawksbill sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, piping plover, and whooping crane.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

The tanks presently contain approximately 130,000 gallons of hazardous liquid and 130 cubic yards of hazardous substances. The following actions are proposed to address the present and future threats of hazardous substances from ASTs onsite:

- The removal of the tank contents for proper disposal. Vacuum trucks, pumps, or similar equipment will be used to transfer contents as necessary.
- Hazardous waste and sludge will be transported for offsite disposal.
- Water containing hazardous substances may be separated from oil/sludge phase, screened, and filtered.
- Water would be tested for Constituents of Concern ("COC"). Effluent results would be compared to wastewater standards. If wastewater quality standards can be met, the effluent may be discharged to a local Publicly Owned Treatment Works (POTW). If effluent does not meet wastewater quality standards, the water will be sent for offsite disposal.

All offsite transportation and disposal will be done in accordance with applicable U.S. Department of Transportation (USDOT) requirements and in compliance with the EPA's Offsite Rule. All requirements under the Occupational Safety and Health Act (OSHA) of 1970, 29 U.S.C. § 651 et seq., and under the laws of the State, approved under Section 18 of the Federal OSHA laws, as well as other applicable safety and health requirements, will be followed. Federal OSHA requirements include Hazardous Materials Operation, 20 CFR § 1910, as amended by 54 Fed. Reg. 9317 (March, 1989), all OSHA General Industry (29 CFR § 1910) and Construction (29 CFR § 1926) standards wherever they are applicable, as well as OSHA record keeping and reporting regulations, and the EPA regulations set forth in 40 CFR § 300, relating to the conduct of work at Superfund sites.

Other requirements under the OSHA of 1970, 29 U.S.C. § 651 et seq., and under the laws of a State with an approved equivalent worker safety program, as well as other applicable safety and health requirements, will be followed. Federal OSHA requirements include, among other things, Hazardous Materials Operation, 20 CFR § 1910, as amended by 54 Fed. Reg. 9317 (March 1989), all OSHA General Industry (29 CFR § 1910) and Construction (29 CFR § 1926)

standards wherever they are relevant, as well as OSHA record keeping and reporting regulations, and the EPA regulations set forth in 40 CFR § 300 relating to the conduct of work at Superfund sites.

2. Contribution to Remedial Performance

Because this action constitutes source control, these actions are cost effective and consistent with long term remediation strategies that may be developed for the Site.

3. Description of Alternative Technologies

The proposed action includes removal and offsite disposal of the chemical wastes that pose the highest risk to public health. No alternatives technologies can be applied to these portions of the cleanup.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

This removal action will be conducted to abate the actual or potential release of a hazardous substance, pollutant, or contaminant to the environment, in accordance with CERCLA, 42 U.S.C. § 9601 *et seq.*, and in a manner consistent with the National Contingency Plan, 40 CFR § 300, as required at 33 U.S.C. § 1321(c)(3) and 42 U.S.C. § 9604 (a)(1). As stated at 40 CFR § 300.415(j), fund-financed removal actions under CERCLA Section 104 and removal actions under CERCLA Section 106 shall, to the extent practicable considering the exigencies of the situation, attain the ARARs under Federal environmental law.

The Resource Conservation and Recovery Act (RCRA) waste analysis requirements found at 40 CFR § 261.20 and 261.30, RCRA's manifesting requirements found at 40 CFR § 262.20, and RCRA packaging and labeling requirements found at 40 CFR § 262.30 are ARARs for this removal action. Because onsite storage of hazardous wastes will not exceed ninety days, specific storage requirements found at 40 CFR § 265 are not ARARs (*See* 40 CFR § 262.34).

5. Project Schedule

After the Action Memorandum is signed, it is anticipated that the cleanup action will commence within 30 days. Total project length will be approximately 90 days.

B. Estimated Costs

This action is expected to be performed by the RP at an estimated cost of \$540,000. The estimated cost of oversight of this action is approximately \$30,000.

ESTIMATED COSTS

Extramural Costs

ERRS	\$ N/A
START	\$ 15,000

Intramural Costs

EPA Regional Direct Costs	\$ 13,000
EPA Regional Indirect Costs	\$ 2,000
TOTAL, CERCLA REMOVAL PROJECT CEILING.....	\$ 30,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

The proposed actions for the Gulfco Marine Maintenance site should be taken immediately. Should these actions be delayed, the potential threats to human health and the environment will increase.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

See attached confidential Enforcement Attachment (*See* Attachment 5).

IX. RECOMMENDATION

This decision document represents the selected removal action for the Gulfco Marine Maintenance site in Brazoria County, Texas, developed in accordance with CERCLA, 42 U.S.C. § 9601 *et seq.*, and consistent with the NCP, 40 CFR § 300. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be \$30,000.00. None of this funding will come from the Regional removal allowance.

Approved: _____ Date: _____
Samuel Coleman, P.E., Director
Superfund Division

Attachments

ENGBLOM:6SF-PR:X8341:re:4/14/08

PETERSEN
6SF-R2

BROYLES
6SF-R

Miller
6SF

Aldridge
6SF-TE

Nann
6RC-S

PEYCKE
6RC-S